

CLAIMS

1. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

at least one of the following:

(a) an insulating dielectric coating positioned adjacent to at least a portion of at least one of said electrodes and said leads,

(b) at least one spline formed in said electrode layer,

(c) a tab stiffener connected to said tab end portion,

(d) a tab slit formed in said tab end portion,

- (e) a sensor trace positioned on said tab end portion,
- (f) a release cover having a donor portion structured to cover said donor reservoir and a return portion structured to cover said return reservoir,
- (g) at least a portion of said flexible backing having a flexural rigidity less than a flexural rigidity of at least a portion of said electrode layer,
- (h) wherein a shortest distance between a surface area of an assembly including said donor electrode and said donor reservoir and a surface area of an assembly including said return electrode and said return reservoir being sized to provide a substantially uniform path of delivery for said composition through said membrane,
- (i) wherein a surface area of an assembly including said donor electrode and said donor reservoir is greater than a surface area of an assembly including said return electrode and said return reservoir,
- (j) wherein a ratio of a surface area of at least one of said reservoirs to a surface area of its corresponding electrode is in the range of about 1.0 to 1.5,
- (k) wherein a footprint area of said assembly is in the range of about 5 cm² to 60 cm²,
- (l) wherein a ratio of a total surface area of said electrodes to a total footprint area of said assembly is in the range of about 0.1 to 0.7,
- (m) wherein a ratio of a surface area of said donor electrode to a surface area of said return electrode is in the range of about 0.1 to 5.0,

(n) wherein a ratio of a thickness of said donor reservoir to a thickness of said return reservoir is in the range of about 0.5 to 2.0,

(o) wherein at least one component of said assembly in communication with at least one of said reservoirs has an aqueous absorption capacity less than an aqueous absorption capacity of said reservoir in communication with said component of said assembly,

(p) a slit formed in said flexible backing in an area located between said donor electrode and said return electrode,

(q) at least one non-adhesive tab extending from said flexible backing,

(r) a gap formed between a portion of a layer of transfer adhesive deposited on said electrode layer and a portion of a tab stiffener connected to said tab end portion,

(s) a tab stiffener attached to a portion of said tab end portion,

(t) at least one tactile sensation aid formed in said tab end portion,

(u) at least one indicium formed on at least a portion of said assembly,

(v) a minimum width of a portion of a layer of transfer adhesive deposited on said electrode layer adjacent to at least one of said donor electrode and said return electrode is in the range of at least about 0.375 inches,

(w) a minimum tab length associated with said tab end portion is in the range of at least about 1.5 inches.

2. The assembly of Claim 1, wherein said composition delivered to said membrane includes at least epinephrine.
3. The assembly of Claim 1, wherein said composition delivered to said membrane includes at least lidocaine.
4. The assembly of Claim 1, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.
5. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:
 - a flexible backing;
 - an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;
 - at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;
 - a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,
an insulating dielectric coating positioned adjacent to at least a portion of at least one of said electrodes and said leads.

6. The assembly of Claim 5, wherein said dielectric coating is positioned adjacent to at least a portion of a periphery of at least one of said electrodes.

7. The assembly of Claim 5, wherein said composition delivered to said membrane includes at least epinephrine.

8. The assembly of Claim 5, wherein said composition delivered to said membrane includes at least lidocaine.

9. The assembly of Claim 5, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

10. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

at least one spline formed in said electrode layer.

11. The assembly of Claim 10, wherein said composition delivered to said membrane includes at least epinephrine.

12. The assembly of Claim 10, wherein said composition delivered to said membrane includes at least lidocaine.

13. The assembly of Claim 10, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

14. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

a tab stiffener connected to said tab end portion.

15. The assembly of Claim 14, wherein said composition delivered to said membrane includes at least epinephrine.

16. The assembly of Claim 14, wherein said composition delivered to said membrane includes at least lidocaine.

17. The assembly of Claim 14, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

18. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

a tab slit formed in said tab end portion.

19. The assembly of Claim 18, further comprising said tab slit being structured to receive a knife edge component of said electrically assisted delivery device.

20. The assembly of Claim 19, further comprising said tab slit being structured to be cut by said knife edge upon removal of said tab end portion from said electrically assisted delivery device.

21. The assembly of Claim 18, wherein said composition delivered to said membrane includes at least epinephrine.

22. The assembly of Claim 18, wherein said composition delivered to said membrane includes at least lidocaine.

23. The assembly of Claim 18, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

24. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

. a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for

electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

a sensor trace positioned on said tab end portion.

25. The assembly of Claim 24, further comprising said sensor trace being structured to permit detection of the presence of said assembly upon electrical association of said assembly with a component of said electrically assisted delivery device.

26. The assembly of Claim 24, wherein said composition delivered to said membrane includes at least epinephrine.

27. The assembly of Claim 24, wherein said composition delivered to said membrane includes at least lidocaine.

28. The assembly of Claim 24, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

29. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

a release cover having a donor portion structured to cover said donor reservoir and a return portion structured to cover said return reservoir.

30. The assembly of Claim 29, further comprising at least one of said donor portion and said return portion including therein at least one transfer absorbent.

31. The assembly of Claim 30, further comprising said transfer absorbent being attached to said release cover with at least one weld.

32. The assembly of Claim 31, further comprising said welds being substantially uniformly distributed in an area of connection between said transfer absorbent and said donor portion of said release cover.

33. The assembly of Claim 31, further comprising said welds being substantially uniformly distributed in an area of connection between said transfer absorbent and said return portion of said release cover.

34. The assembly of Claim 29, wherein said composition delivered to said membrane includes at least epinephrine.

35. The assembly of Claim 29, wherein said composition delivered to said membrane includes at least lidocaine.

36. The assembly of Claim 29, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

37. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

at least a portion of said flexible backing having a flexural rigidity less than a flexural rigidity of at least a portion of said electrode layer.

38. The assembly of Claim 37, wherein said composition delivered to said membrane includes at least epinephrine.

39. The assembly of Claim 37, wherein said composition delivered to said membrane includes at least lidocaine.

40. The assembly of Claim 37, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

41. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

wherein a shortest distance between a surface area of an assembly including said donor electrode and said donor reservoir and a surface area of an assembly including said return electrode and said return reservoir being sized to provide a substantially uniform path of delivery for said composition through said membrane.

42. The assembly of Claim 41, wherein said shortest distance is in the range of at least about 0.25 inches.

43. The assembly of Claim 41, wherein said composition delivered to said membrane includes at least epinephrine.

44. The assembly of Claim 41, wherein said composition delivered to said membrane includes at least lidocaine.

45. The assembly of Claim 41, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

46. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

. a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

wherein a surface area of an assembly including said donor electrode and said donor reservoir is greater than a surface area of an assembly including said return electrode and said return reservoir.

47. The assembly of Claim 46, wherein said composition delivered to said membrane includes at least epinephrine.

48. The assembly of Claim 46, wherein said composition delivered to said membrane includes at least lidocaine.

49. The assembly of Claim 46, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

50. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

wherein a ratio of a surface area of at least one of said reservoirs to a surface area of its corresponding electrode is in the range of about 1.0 to 1.5.

51. The assembly of Claim 50, wherein a surface area of at least one of said reservoirs is substantially the same as a surface area of its corresponding electrode.

52. The assembly of Claim 50, wherein said composition delivered to said membrane includes at least epinephrine.

53. The assembly of Claim 50, wherein said composition delivered to said membrane includes at least lidocaine.

54. The assembly of Claim 50, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

55. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

wherein a footprint area of said assembly is in the range of about 5 cm² to 60 cm².

56. The assembly of Claim 55, wherein said composition delivered to said membrane includes at least epinephrine.

57. The assembly of Claim 55, wherein said composition delivered to said membrane includes at least lidocaine.

58. The assembly of Claim 55, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

59. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

- a flexible backing;

- an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

- at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

- a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

- a return reservoir positioned in communication with said return electrode; and,

wherein a ratio of a total surface area of said electrodes to a total footprint area of said assembly is in the range of about 0.1 to 0.7.

60. The assembly of Claim 59, wherein said composition delivered to said membrane includes at least epinephrine.

61. The assembly of Claim 59, wherein said composition delivered to said membrane includes at least lidocaine.

62. The assembly of Claim 59, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

63. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for

electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

wherein a ratio of a surface area of said donor electrode to a surface area of said return electrode is in the range of about 0.1 to 5.0.

64. The assembly of Claim 63, wherein said composition delivered to said membrane includes at least epinephrine.

65. The assembly of Claim 63, wherein said composition delivered to said membrane includes at least lidocaine.

66. The assembly of Claim 63, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

67. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

wherein a ratio of a thickness of said donor reservoir to a thickness of said return reservoir is in the range of about 0.5 to 2.0.

68. The assembly of Claim 67, wherein said composition delivered to said membrane includes at least epinephrine.

69. The assembly of Claim 67, wherein said composition delivered to said membrane includes at least lidocaine.

70. The assembly of Claim 67, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

71. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

- a flexible backing;
- an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

- at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

- a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

- a return reservoir positioned in communication with said return electrode; and,

- wherein at least one component of said assembly in communication with at least one of said reservoirs has an aqueous absorption capacity less than an aqueous absorption capacity of said reservoir in communication with said component of said assembly.

72. The assembly of Claim 71, wherein said composition delivered to said membrane includes at least epinephrine.

73. The assembly of Claim 71, wherein said composition delivered to said membrane includes at least lidocaine.

74. The assembly of Claim 71, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

75. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

- a flexible backing;

- an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

- at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

- a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

- a return reservoir positioned in communication with said return electrode; and,

- a slit formed in said flexible backing in an area located between said donor electrode and said return electrode.

76. The assembly of Claim 75, wherein said composition delivered to said membrane includes at least epinephrine.

77. The assembly of Claim 75, wherein said composition delivered to said membrane includes at least lidocaine.

78. The assembly of Claim 75, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

79. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

- a flexible backing;

- an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

- at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

at least one non-adhesive tab extending from said flexible backing.

80. The assembly of Claim 79, wherein said composition delivered to said membrane includes at least epinephrine.

81. The assembly of Claim 79, wherein said composition delivered to said membrane includes at least lidocaine.

82. The assembly of Claim 79, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

83. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having a layer of transfer adhesive deposited thereon, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode;

a tab stiffener attached to a portion of said tab end portion; and,

a gap formed between a portion of said layer of transfer adhesive and said tab stiffener.

84. The assembly of Claim 83, wherein a width of said gap is in the range of at least about 0.5 inches.

85. The assembly of Claim 83, wherein said composition delivered to said membrane includes at least epinephrine.

86. The assembly of Claim 83, wherein said composition delivered to said membrane includes at least lidocaine.

87. The assembly of Claim 83, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

88. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

at least one tactile sensation aid formed in said tab end portion.

89. The assembly of Claim 88, wherein said tactile sensation aid includes at least one notch formed in said tab end portion.

90. The assembly of Claim 88, wherein said tactile sensation aid includes at least one wing extending from said tab end portion.

91. The assembly of Claim 88, wherein said composition delivered to said membrane includes at least epinephrine.

92. The assembly of Claim 88, wherein said composition delivered to said membrane includes at least lidocaine.

93. The assembly of Claim 88, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

94. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

a flexible backing;

an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for

electrical connection with at least one component of said electrically assisted delivery device;

a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

a return reservoir positioned in communication with said return electrode; and,

at least one indicium formed on at least a portion of said assembly.

95. The assembly of Claim 94, wherein said indicium is formed on said flexible backing adjacent to said donor electrode.

96. The assembly of Claim 94, wherein said indicium is formed on said flexible backing adjacent to said return electrode.

97. The assembly of Claim 94, wherein said composition delivered to said membrane includes at least epinephrine.

98. The assembly of Claim 94, wherein said composition delivered to said membrane includes at least lidocaine.

99. The assembly of Claim 94, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

100. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

- a flexible backing;

- an electrode layer connected to said flexible backing, said electrode layer having a layer of transfer adhesive deposited thereon, said electrode layer having at least a donor electrode and a return electrode;

- at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

- a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

- a return reservoir positioned in communication with said return electrode; and,

- wherein a minimum width of a portion of said layer of transfer adhesive adjacent to at least one of said donor electrode and said return electrode is in the range of at least about 0.375 inches,

101. The assembly of Claim 100, wherein said composition delivered to said membrane includes at least epinephrine.

102. The assembly of Claim 100, wherein said composition delivered to said membrane includes at least lidocaine.

103. The assembly of Claim 100, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.

104. An integrated electrode assembly structured for use in association with an electrically assisted delivery device for delivery of a composition to a membrane, said integrated electrode assembly comprising:

- a flexible backing;

- an electrode layer connected to said flexible backing, said electrode layer having at least a donor electrode and a return electrode;

- at least one lead extending from each of said donor electrode and said return electrode to a tab end portion of said assembly, said tab end portion being structured for electrical connection with at least one component of said electrically assisted delivery device;

- a donor reservoir positioned in communication with said donor electrode, said donor reservoir including an amount of said composition;

- a return reservoir positioned in communication with said return electrode; and,

- wherein a minimum tab length associated with said tab end portion is in the range of at least about 1.5 inches.

105. The assembly of Claim 104, wherein said composition delivered to said membrane includes at least epinephrine.
106. The assembly of Claim 104, wherein said composition delivered to said membrane includes at least lidocaine.
107. The assembly of Claim 104, wherein at least one of said electrodes comprises a material selected from the group consisting of Ag and Ag/AgCl.